

Amendments to the Specification:

Please replace the paragraph beginning on page 2, line 3 with the following amended paragraph:

Generally, an electronic connector terminal is applied with plating on surfaces of the terminal so as to prevent degradation of connector performance due to oxidation under atmosphere of usage circumstance or electric contact mechanism while enhancing electrical conductivity. Conventionally, in the terminal configured to have the electronic connection on the lateral part, the electronic plating is provided on the entire surface of the terminal, and therefore, there is a drawback in which ~~much~~ significant amounts of gold (Au) used for plating thereof are required so that the product cost thereof becomes high.

Please replace the paragraph beginning on page 2, line 13 with the following amended paragraph:

With respect to the above drawback, the terminal with plating only on the connection point of the lateral part has been proposed. For example, the method comprising the following steps has been proposed in Japanese Patent (Laid-Open) No. Showa 49-114796 and the steps are:

stacking a plurality of connector terminals; and
plating thereon such that un-necessary plating layers can not be

deposited on planer partsu of a fork-shaped spring.

Please replace the paragraph beginning on page 3, line 20 with the following amended paragraph:

Regarding [[to]] the above problem, an object of the present invention is to provide an electronic connector terminal which is produced easily and inexpensively by reducing the amount[[s]] of Au necessary for plating without requiring additional production processes, and ~~is able to~~ maintaining sufficient contact pressure even when the terminal width is narrowed.

Please replace the paragraph beginning on page 4, line 1 with the following amended paragraph:

The above object may be achieved by providing the electronic connector terminal according to the present invention. That is, according to the invention of claim 1, an electronic connector terminal may be provided. The terminal comprises a terminal base material formed by punching a metal thin plate and an Au plating layer covering the terminal base material, the terminal base material further comprising a lateral part having at least one contact and defined as a cut surface of the thin plate through the punching and a planer part defined by front and back faces of a punched-out piece of the thin plate, wherein a thickness of an Au

plating layer covering the planer part is thinner than a thickness of an Au plating layer covering the lateral part having the at least one contact.

Please replace the paragraph beginning on page 5, line 24 with the following amended paragraph:

Fig. 4a and 4b show[[s]] [[a]] cross sectional views of the electronic connector terminal of the present invention formed by punching a thin plate and then applying Au plating thereon.

Please replace the paragraph beginning on page 6, line 6 with the following amended paragraph:

Now, the present invention will be explained in detail with ~~referring~~ reference to the accompanying drawings, however, the present invention [[can]] is not intended to be limited to the particular embodiments described hereinafter. Fig. 1 shows a perspective view of the terminal stack. The terminal stack 1 has a structure that a plurality of terminal base materials 2 [[is]] are integrated to one carrier 3. [[The]] Each terminal base material 2 is formed by punching a metal thin plate. The electronic connector terminal of the present invention is produced by subjecting the terminal stack 1 to Au plating and thereafter cutting the carrier 3 to separate individual base materials. Here, the term "terminal

base material" is defined as a terminal part formed by punching the thin plate prior to Au plating except for the carrier 3. The terminal base material 2 comprises a lateral part 4 formed by a cut surface by punching the thin plate and a planer part[[s]] 5 formed as front and back faces of the punched piece. A contact 6 is disposed to one end of the lateral part 4 and the contact 6 is urged by pressure to a connection terminal of an electrical member (not shown). In the embodiment shown in Fig. 1, two contacts 6 are provided ~~thereto~~. In addition, a leg part 7, which is to be soldered to a substrate to which an electric connector (not shown) is placed, extends from the lateral part 4 of the terminal base material 2.

Please replace the paragraph beginning on page 7, line 3 with the following amended paragraph:

The thin metal plate used as the terminal base material 2 shown in Fig. 2 may include ~~copper~~ copper alloy such as helium-~~copper~~ copper and phosphor bronze or electrically conductive metal such as aluminum with the thickness thereof between 0.1 mm and 0.3 mm. A shape through the punching press may be determined depending on a shape of a connection terminal.

Please replace the paragraph beginning on page 7, line 9 with the following amended paragraph:

Holes 8 for carriage are formed in the carrier 3 with ~~remaining~~ a predetermined spacing in ~~the carrier 3~~ therebetween as shown in Fig. 1 so as to insert a carrier bar (not shown) therethrough with adequate flexibility. The electronic connector terminal of the present invention is generally produced by the steps of: plural terminal stacks 1 are plied, thereafter the carrier bars are inserted into the carrier holes 8 so as not to come off the terminal stacks from the carrier bar, then the plating process described below is subjected thereto, the Au plating layer is formed on each of the plurality of the terminal base materials 2, and then the terminal stack 1 is cut apart from the carrier 3 to provide individual terminals. Then each of the terminals is inserted to a connector housing.

Please replace the paragraph beginning on page 8, line 3 with the following amended paragraph:

The electronic connector terminal of the present invention is covered by the Au plating layer in the entire portion thereof, however, a thickness of the Au plating layer covering the planer part 5 becomes thinner than a thickness of the Au plating layer covering the lateral part 4. The reason why the Au plating layer

covering the planer part 5 becomes thinner ~~[[is]]~~ to prevent degradation of connector performance due to gradual oxidation while the planer part 5 is placed in a less oxidation atmosphere than the lateral part 4 comprising the contact 6 which are placed ~~[[at]]~~ in a greater oxidation atmosphere due to electronic contact. The additional reason is ~~in-that~~ to lower~~[[ing]]~~ the production cost by reducing amounts of Au plating deposited on the planer part 5 having a wide area. It may be possible to reduce degradation of the connector performance by forming an insulation film on the planer part 5~~[[,]]~~. ~~[[however]]~~ However, the above method ~~should~~ would add to the process for masking the lateral part 4 which has already been applied with Au plating and ~~[[for]]~~ depositing the insulation film thereon ~~so-that~~ would require additional materials and apparatus ~~[[are]]~~ being necessitated, thereby increasing the production processes and failing to lower~~[[ing]]~~ the production costs. The electronic connector terminal of the present invention makes it possible to provide the Au plating on the planer part 5 at the same time ~~when~~ the Au plating to the lateral part 4 is applied, ~~[[and]]~~ wherein the thickness of the Au plating on the planer part 5 becomes thinner than that of the lateral part 4~~[[,]]~~. ~~therefore~~ Therefore, the terminal will be provided in~~[[-]]~~expensively without the additional processes and the additional materials.

Please replace the paragraph beginning on page 9, line 4 with the following amended paragraph:

In the present invention, when the liner plating layer is applied, the liner plating layer between the terminal base material 2 and the Au plating layer may be the same thickness ~~with~~ as the Au plating layer~~[[,]]~~. ~~however~~ However, the liner plating layer may be formed such that the thickness thereof covering the planer part 5 becomes thinner than that of the lateral part 4. According to the present invention, it is preferable to form the thickness of the liner plating covering the planer part 5 thinner than that on the lateral part in order to provide the terminals in~~[-]]~~expensively.

Please replace the paragraph beginning on page 9, line 13 with the following amended paragraph:

Now, the method for forming the Au plating layer to the electronic conductive terminal according to the present invention will be described. Fig. 2 shows the situation in which the terminal stacks 1 are plied and the carrier bars 9 are inserted into the holes 8. The planer part 5 and the plane of carrier 3 of the terminal in each of the terminal stacks 1 are adjacent each other and only the planer part 5 and the plane of the carrier 3 of the outermost terminal stack 1 are exposed freely to the plating

solution. Here, the plane of the carrier 3 is defined as the front and back planes of the carrier 3 and the lateral part of the carrier is defined as faces along to the thickness of the carrier 3. In the described embodiment in Fig. 2, the fixing member 10 is disposed in a predetermined position ~~[[of]]~~ on the carrier bar 9 after inserting the carrier bar 9 into the holes 8 of the terminal stack 1 so as not to ~~coming~~ come off from the carrier bar 9.

Please replace the paragraph beginning on page 10, line 3 with the following amended paragraph:

When the terminal stacks 1 supported by the supporting member 10 after insertion of the carrier bar 9 are dipped in plating solution as is, Au plating layers are prevented ~~[[to]]~~ from being deposited on the adjacent planer part 5 and the outermost planes of the carrier 3 except for the outermost planer part 5 and the plane of the carrier 3. In the present invention, the inventor found that the thinner Au plating layer can be formed on the planer part 5 by dipping the terminal stacks 1, moving the terminal base material such that the planer part of each of the terminal base materials 2 is exposed to the Au plating solution ~~[[to]]~~ by being immersed in the plating solution allowing it to penetrate between the plied terminal stacks.

Please replace the paragraph beginning on page 10, line 14 with the following amended paragraph:

The above method will be described in detail by referring to Fig. 3. The method for applying Au plating may include in the present invention, such as, for example, an electric plating method using an overflow-type plating bath; however, chemical plating methods may not be excluded in the scope of the present invention. The plating bath 11 comprises a plating-processing bath 13 in which an anode 12 is disposed in the bottom thereof[[,]]. [[a]] A recover bath 14 ~~being~~ is placed around the plating-processing path 13 ~~while~~ for recovering plating solution overflowed from the plating-processing bath 13[[,]]. ~~and a~~ A control bath 15 is provided for sending the plating solution by pressure to the plating-processing bath 13 and for sending the plating solution by pressure from the recovery bath 14 to the plating-processing bath 13. The plating bath 11 is designed to keep the plating solution level at a predetermined solution level while overflowing from the plating-processing bath 13.

Please replace the paragraph beginning on page 11, line 4 with the following amended paragraph:

Next, the plural plied terminal stacks 1 are connected to a

cathode, and then are dipped into the plating solution in the plating bath 11[[,]]. ~~and thereafter~~ Thereafter, the one end 9a of the carrier bar 9 ~~being~~ is inserted through the terminal stacks 1 [[are]] and is caused to make round trip movements along with a predetermined direction in a predetermined frequency. For example, when the plural terminal stacks 1 are plied using two carrier bars 9, one carrier bar may be fixed and then only one end 9a of another carrier bar are caused to make the round trip movements so that each of the terminal stacks 1 may ~~be made~~ make the round trip movement. As shown in Fig. 3, when the one end 9a is moved to the direction of the arrow A, the plural terminal stacks 1 spread like a fan, and a region of the planer parts of the terminal base material and a region of the plane of the carriers are exposed to the plating solution. Further next, when moved to the arrow B which is in the inverse direction to the arrow A, the plural terminal stacks 1 spread like a fan again and contact [[to]] the[[ir]] adjacent terminal stacks 1 such that the plating solution on the surface of the planer part is extended as thin layers to penetrate towards the entire surface of the planer part. When the movements are repeated, the thin Au plating layer on the entire planer part 5 may be deposited. The lateral parts are always exposed to the plating solution, and then the thicker plating layer than the planer part 5 and the plane of the carrier 3 may be

formed.

Please replace the paragraph beginning on page 13, line 3 with the following amended paragraph:

Fig. 4 shows the cross section of the terminal formed by punching the thin plate followed by the Au plating. Here, Fig. 4 shows a part of the terminal in an enlarged format. Fig. 4(a) shows the cross section of the terminal 16 viewed from the side facing to the planer part 5 and Fig. 4(b) is the cross section of the terminal 16 viewed from the side facing to the lateral part 4. The terminal 16 shown in Fig. 4b comprises the Au plating layer 17 which is thicker on the lateral face side 4 and is thinner on the planer part 5 of the terminal base material 2 formed by punch[[ed]]ing [[as]] into a desired shape. The ratio of the thicknesses of the Au plating layer 17 is to be from about 10:1 to about 5:1 in preferred embodiments.

Please replace the paragraph beginning on page 17, line 2 with the following amended paragraph:

The present invention provides an electronic connector terminal. The electronic connector terminal according to the present invention comprises a terminal base material 2 which is formed by punching a thin metal plate and an Au plating layer 17 which covers the terminal base material 2. The terminal base

F:\MM DOCS\1-PAT\PAT 2004\APP\1286-04 Mayama Int'l Pat\1286 312 Amendment.doc

material 2 is defined by a cut surface of the thin plate through punching and comprises a lateral part 4 having at least one contact 6, planer parts 5 defined by front and back faces of a punched-out piece. An Au plate layer 17 on the planer parts 5 has the thickness being thinner than the thickness of an Au plate layer 17 on the lateral part 4 having at least one contact 6. ~~Selected Drawings Fig. 4~~